

IN THE CLAIMS:

This Listing of Claims will replace all prior Listings and versions of claims in the above-identified application.

Listing of Claims:

1. (Currently Amended) A method to identify agonist ligands of progesterone receptors, comprising:

- a) contacting a progesterone receptor with a putative agonist ligand, wherein said progesterone receptor is selected from the group consisting of progesterone receptor A (PR-A) and progesterone receptor B (PR-B), under conditions wherein, in the absence of said putative agonist ligand, said progesterone receptor is not activated;
- b) detecting expression of at least one gene that is selectively upregulated by said progesterone receptor B (PR-B) when said progesterone receptor B is activated, said at least one gene being chosen from a gene comprising a nucleic acid sequence selected from the group consisting of: SEQ ID NO:10, SEQ ID NO:11, SEQ ID NO:12, SEQ ID NO:13, ~~SEQ ID NO:14~~, SEQ ID NO:15, SEQ ID NO:16, SEQ ID NO:17, SEQ ID NO:18, ~~and~~ SEQ ID NO:19 and SEQ ID NO:26; and,
- c) comparing the expression of said at least one gene in the presence and in the absence of said putative agonist ligand, wherein detection of regulation of the expression of said at least one gene in the manner associated with activation of said progesterone receptor as set forth in (b) indicates that said putative agonist ligand is a progesterone receptor agonist.

2-6. (Cancelled)

7. (Previously Presented) The method of Claim 1, wherein said step (b) of detecting comprises detecting expression of at least five genes from any one or more of said genes in (b).

8. (Previously Presented) The method of Claim 1, wherein said step (b) of detecting comprises detecting expression of at least ten genes from any one or more of said genes in (b).

9. (Cancelled)
10. (Previously Presented) The method of Claim 1, further comprising a step of detecting expression of at least one gene chosen from a gene comprising a nucleic acid sequence selected from the group consisting of: SEQ ID NO:94, SEQ ID NO:7, SEQ ID NO:95, SEQ ID NO:96, SEQ ID NO:97, SEQ ID NO:98, SEQ ID NO:99, SEQ ID NO:100, SEQ ID NO:101, SEQ ID NO:102, SEQ ID NO:103, and SEQ ID NO:104.
11. (Original) The method of Claim 1, wherein said progesterone receptor is expressed by a cell.
12. (Original) The method of Claim 11, wherein said progesterone receptor is endogenously expressed by said cell.
13. (Original) The method of Claim 11, wherein said progesterone receptor is recombinantly expressed by said cell.
14. (Previously Presented) The method of Claim 11, wherein said cell is part of a tissue isolated from a test animal.
15. (Previously Presented) The method of Claim 14, wherein said step of contacting is performed by administration of said putative agonist ligand to said test animal or to said tissue of said test animal, followed by removing the tissue from the test animal and detecting the expression of said at least one gene in step (b).
16. (Original) The method of Claim 1, wherein expression of said at least one gene is detected by measuring amounts of transcripts of said at least one gene before and after contact of said progesterone receptor with said putative agonist ligand.
17. (Original) The method of Claim 1, wherein expression of said at least one gene is detected by detecting hybridization of at least a portion of said at least one gene or a transcript thereof to a nucleic acid molecule comprising a portion of said at least one gene or a transcript thereof in a nucleic acid array.
18. (Original) The method of Claim 1, wherein expression of said at least one gene is detected by measuring expression of a reporter gene that is operatively linked to at least the regulatory region of said at least one gene.

19. (Original) The method of Claim 1, wherein expression of said at least one gene is detected by detecting the production of a protein encoded by said at least one gene.

20. (Original) The method of Claim 1, wherein said putative agonist ligand is a product of rational drug design.

21. (Previously Presented) The method of Claim 1, further comprising, in step (b), detecting expression of: 11-beta-hydroxysteroid dehydrogenase type 2 (represented by SEQ ID NO:94), tissue factor gene (represented by SEQ ID NO:7), PCI gene (plasminogen activator inhibitor 3) (represented by SEQ ID NO:96), MAD-3 I κ B-alpha (represented by SEQ ID NO:99), Niemann-Pick C disease (NPC1) (represented by SEQ ID NO:100), platelet-type phosphofructokinase (represented by SEQ ID NO:102), phenylethanolamine n-methyltransferase (PNMT) (represented by SEQ ID NO:98), transforming growth factor-beta 3 (TGF-beta3) (represented by SEQ ID NO:108), Monocyte Chemotactic Protein 1 (represented by SEQ ID NO:104), delta sleep inducing peptide (related to TSC-22) (represented by SEQ ID NO:105), and estrogen receptor-related protein (hERRa1) (represented by SEQ ID NO:4).

22. (Previously Presented) The method of Claim 1, further comprising, in step (b), detecting expression of: growth arrest-specific protein (gas6) (represented by SEQ ID NO:6), tissue factor gene (represented by SEQ ID NO:7), NF-IL6-beta (C/EBPbeta) (represented by SEQ ID NO:107), PCI gene (plasminogen activator inhibitor) (represented by SEQ ID NO:96), Stat5A (represented by SEQ ID NO:97), calcium-binding protein S100P (represented by SEQ ID NO:87), MSX-2 (represented by SEQ ID NO:64), lipocortin II (calpactin I) (represented by SEQ ID NO:101), selenium-binding protein (hSBP) (represented by SEQ ID NO:77), and bullous pemphigoid antigen (plakin family) (represented by SEQ ID NO:91).

23. (Previously Presented) The method of Claim 1, further comprising, in step (b), detecting expression of phenylethanolamine n-methyltransferase (PNMT) adrenal medulla (represented by SEQ ID NO:98).

24. (Previously Presented) The method of Claim 1, further comprising, in step (b), detecting expression of proteasome-like subunit MECL-1 (represented by SEQ ID NO:83).

25. (Previously Presented) The method of Claim 1, further comprising, in step (b), detecting expression of: growth arrest-specific protein (represented by SEQ ID NO:6) and tissue factor gene (represented by SEQ ID NO:7).

26-83. (Cancelled)

84. (Previously Presented) The method of Claim 1, further comprising a step of detecting expression of Bcl-x (represented by SEQ ID NO:106).

85. (Previously Presented) The method of Claim 1, further comprising a step of detecting expression of NF-IL6 (C/EBPbeta) (represented by SEQ ID NO:107).

86. (Previously Presented) The method of Claim 1, further comprising a step of detecting expression of transforming growth factor-beta 3 (represented by SEQ ID NO:108).

87. (Currently Amended) The method of Claim 1, further comprising a step of detecting expression of at least one gene selected from the group consisting of: SEQ ID NO:7, ~~SEQ ID NO:26~~, SEQ ID NO:14, SEQ ID NO:33, SEQ ID NO:71, SEQ ID NO:75, SEQ ID NO:76, SEQ ID NO:86, SEQ ID NO:91, SEQ ID NO:104 and SEQ ID NO:108.

88. (Currently Amended) The method of Claim 1, further comprising in step (b), detecting expression of at least one additional gene that is regulated by said progesterone receptor when said progesterone receptor is activated, said at least one gene being selected from the group consisting of:

(1) at least one gene that is selectively upregulated by PR-A chosen from a gene comprising a nucleic acid sequence selected from the group consisting of: SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:105 and SEQ ID NO:106;

(2) a gene that is selectively downregulated by PR-A comprising a nucleic acid sequence selected from the group consisting of: SEQ ID NO:5 and SEQ ID NO:104;

(3) at least one gene that is selectively upregulated by PR-B chosen from a gene comprising a nucleic acid sequence selected from the group consisting of: SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9, SEQ ID NO:14, any of SEQ ID NOs:20-25, any of SEQ ID NOs:27-73, SEQ ID NO:96, SEQ ID NO:97, SEQ ID NO:98, SEQ ID NO:100, SEQ ID NO:101, SEQ ID NO:102, SEQ ID NO:103 and SEQ ID NO:107;

(4) at least one gene that is selectively downregulated by PR-B chosen from a gene comprising a nucleic acid sequence selected from the group consisting of: SEQ ID NO:74, SEQ ID NO:75, SEQ ID NO:76, SEQ ID NO:77, SEQ ID NO:78, SEQ ID NO:79, SEQ ID NO:80, SEQ ID NO:81, SEQ ID NO:82, and SEQ ID NO:83;

(5) at least one gene that is upregulated or downregulated by both PR-A and PR-B chosen from a gene comprising a nucleic acid sequence selected from the group consisting of: SEQ ID NO:84, SEQ ID NO:85, SEQ ID NO:86, SEQ ID NO:87, SEQ ID NO:88, SEQ ID NO:89, SEQ ID NO:90, SEQ ID NO:91, SEQ ID NO:92, SEQ ID NO:93, SEQ ID NO:94, SEQ ID NO:95, SEQ ID NO:99 and SEQ ID NO:108;

(6) at least one gene that is reciprocally regulated by PR-A and PR-B chosen from a gene comprising a nucleic acid sequence represented by SEQ ID NO:51; and,

(7) at least one gene that is regulated by one of said PR-A or said PR-B, wherein regulation of said gene is altered when the other of said PR-A or PR-B is expressed by the same cell, chosen from a gene comprising a nucleic acid sequence selected from the group consisting of: SEQ ID NO:3, SEQ ID NO:4, any of SEQ ID NOs:6-50, any of SEQ ID NOs:52-83, and SEQ ID NO:104;

wherein detection of regulation of the expression of said at least one gene in the manner associated with activation of said progesterone receptor as set forth in (b) indicates that said putative agonist ligand is a progesterone receptor agonist.

89. (Previously Presented) The method of Claim 88, wherein said progesterone receptor comprises both PR-A and PR-B.

90. (Previously Presented) The method of Claim 88, wherein said step of detecting further comprises detecting expression of at least five genes from any one or more of said genes in (1)-(7).

91. (Previously Presented) The method of Claim 88, wherein said step of detecting further comprises detecting expression of at least ten genes from any one or more of said genes in (1)-(7).

92. (Previously Presented) The method of Claim 88, wherein said step of detecting further comprises detecting expression of at least 15 genes from any one or more of said genes in (1)-(7).